

**IN THE UNITED STATES DISTRICT COURT FOR THE  
NORTHERN DISTRICT OF OKLAHOMA**

ALLEN, ALLEN & ASSOCIATES, L.L.C., et al., )

Plaintiffs, )

v. )

SERVA CORPORATION, )

Defendant, )

and )

SERVA CORPORATION, et al., )

Counterclaim Plaintiffs, )

v. )

ALLEN, ALLEN & ASSOCIATES, L.L.C., et al., )

Counterclaim Defendants, )

and )

SERVA CORPORATION, et al., )

Third Party Plaintiffs, )

v. )

YIMEI WANG-ALLEN, as personal )

representative of the Estate of Thomas E. )

Allen, and THE ESTATE OF THOMAS )

E. ALLEN, )

Third Party Defendants. )

Case No. 10 CV-707-GKF-TLW

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**SERVA CORPORATION AND SERVA GROUP LLC'S  
OPENING CLAIM CONSTRUCTION BRIEF**

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## I. INTRODUCTION

Pursuant to this Court’s Amended Scheduling Order [Dkt. 45], Defendant, Counterclaim Plaintiff and Third-Party Plaintiff Serva Corporation (“Serva Corp.”), and Counterclaim Plaintiff and Third-Party Plaintiff Serva Group, LLC (“Serva Group”), hereby file their Opening Brief on Claim Construction.

Plaintiffs and Counterclaim Defendants Allen, Allen & Associates LLC (“Allen Associates”) and Allen, Allen & Associates Manufacturing LLC (“Allen Manufacturing”) brought this declaratory judgment action against Serva Corp., seeking a judicial declaration that powder mixing technology manufactured and sold by Allen Associates and Allen Manufacturing does not infringe U.S. Patent No. 6,749,330 (“‘330 patent”). In their Counterclaim, Serva Corporation and Serva Group (referred to collectively as “Serva”) asserted that Allen Associates and Allen Manufacturing had infringed, induced the infringement of, and/or contributed to the infringement of the ‘330 patent. Serva Corporation and Serva Group contemporaneously filed a Third-Party Complaint against Thomas E. Allen (“Mr. Allen”),<sup>1</sup> alleging that Mr. Allen induced or contributed to the infringement of the ‘330 patent. Claims 11, 12, 13, 14, 17, 18, and 19 of the ‘330 patent are infringed by Allen Associates, Allen Manufacturing, and Mr. Allen (collectively “the Allen Parties”). Of these, claims 11 and 17 are independent claims.

## II. LEGAL PRINCIPLES

### A. Intrinsic Evidence

In *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), the United States Court of Appeals for the Federal Circuit outlined the principles governing claim construction. The starting point of any claim construction analysis is an assessment of “how a person of ordinary skill in the art understands” the claim terms. *Id.* at 1313. However, the

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<sup>1</sup> The Estate of Thomas E. Allen and Yimei Wang-Allen, as personal representative of the Estate of Thomas E. Allen, have been substituted for Thomas E. Allen in this matter. “Mr. Allen” shall be used to refer either or both to Thomas E. Allen and/or his successors-in-interest.

meaning of a term to one of skill in the art must not be considered in a vacuum, but rather in the context of the intrinsic evidence, namely the claims, specification, and the prosecution history. *Id.*; see also *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005).

In examining the intrinsic evidence, the plain language of the claims themselves can provide substantial guidance as to the meaning of the particular term. *Phillips*, 415 F.3d at 1314. The specification, which provides the written description and drawings of the invention, also plays a crucial role in claim construction, and is the single best guide to defining the disputed term. *Id.* at 1315. “The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Id.* at 1316 (citing *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)). Although the specification may be used to interpret the meaning of the claims, limitations from the specification and specific embodiments described therein do not limit claim language that is broader than those embodiments. See *id.* at 1323.

The prosecution or file history, which consists of the complete record of the examination of a patent application before the Patent Office, may also be relevant to a claim’s construction. *Id.* at 1317. Although the prosecution history represents the patentee’s attempt to define and explain the patent, it also represents a negotiation between the patentee and the U.S. Patent and Trademark Office. Accordingly, the prosecution history is less clear than, and less useful than, the specification when construing a disputed claim. *Id.*

## **B. Extrinsic Evidence**

Although extrinsic evidence, including expert and inventor testimony, dictionaries and learned treatises, may also be used by the court, such evidence is “less significant than the intrinsic evidence in determining the legally operative meaning of claim language.” *Id.* at 1317 (internal quotation marks and citations omitted). Dictionaries and



treatises may be used if the court deems them helpful in determining the true meaning of language used in patent claims. *Id.* at 1318; *Free Motion Fitness, Inc. v. Cybex Int'l, Inc.*, 423 F.3d 1343, 1348 (Fed. Cir. 2005). However, the dictionary definition of a term should not be given undue weight, as unnecessarily elevating the dictionary focuses the inquiry on the abstract meaning of words instead of the meaning of claim terms within the context of the patent. *Phillips*, 415 F.3d at 1321-1322.

### **C. Means-Plus-Function Claims**

One approach to claim drafting involves describing a particular element of a claim not by its structure or constituent parts, but by the function that it performs. This method, which is referred to as means-plus-function format, is based on 35 U.S.C. § 112, paragraph 6, which provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The first step in a means-plus-function analysis is to “identify the function of the means-plus-function limitation.” *Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1377 (Fed. Cir. 2008) (citing *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1208 (Fed. Cir. 2002)). Section 112, paragraph 6 is not invoked where the claim language fails to recite a specific function. *Rodime PLC v. Seagate Tech., Inc.*, 174 F. 3d 1294, 1302 (Fed. Cir. 1999).

“The next step is to identify the corresponding structure in the written description necessary to perform that function.” *Texas Digital Sys., Inc.*, 308 F.3d at 1208. “‘Structure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.’” *Id.* (quoting *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)). Thus, a proper construction under section 112,

paragraph 6 will define the corresponding structure as the structure, material, or acts described in the specification for performing the desired function and all structural equivalents thereof. *Personalized Media Commc'ns, LLC v. Int'l Trade Comm'n*, 161 F.3d 696, 703-04 (Fed. Cir. 1998).

The use of the term “means” in a claim creates a presumption that section 112, paragraph 6 applies. Failure to use the term “means” creates the opposite presumption, namely that section 112, paragraph 6 does not apply. *Personalized Media*, 161 F.3d at 703-704; *see also Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000). Even if the term “means” is used in the claim, claim language reciting structure of the “means” that aids in the performance of the identified function is sufficient to rebut the presumption that section 112, paragraph 6 applies. *Id.* at 704.

### **III. TECHNOLOGY AT ISSUE**

The ‘330 patent, attached hereto as Exhibit A, describes and claims a “Cement Mixing System for Oil Well Cementing.” Thomas E. Allen, the named inventor of the patent, filed the application for the ‘330 patent on November 1, 2001, while he and Allen Associates were engaged as paid consultants for Serva Corp. The ‘330 patent issued on June 15, 2004, at which time Mr. Allen and Allen Associates remained paid consultants for Serva.

The invention disclosed in the ‘330 patent is a high-efficiency, high-energy, continuously recirculating slurry mixer used primarily to mix cement in the oilfield industry. The invention builds on prior art known since continuously recirculating mixers were first introduced in the 1970s. Unlike straight-through batch cement mixers, which mix dry cement and water before discharging slurry for use in cementing, recirculating mixers divert a portion of the slurry discharged from the mixer and reintroduce that slurry into the mixer. As a result, the incoming dry powder in a recirculating mixer is wetted both by the incoming water stream and the recirculated

slurry, providing additional mixing energy and improving mixing. ‘330 patent, Col. 2, ln. 10-39.

Recirculating mixers known in the prior art incorporated various configurations for introducing recirculated slurry. Some prior inventions taught the use of centrally located recirculation jets, while others taught the use of multiple, annularly-situated recirculation jets that reintroduced recirculated slurry from positions about the mixer. ‘330 patent, Col. 2, ln. 28-39. The ‘330 patent distinguished itself from this prior art in at least two ways. First, the ‘330 patent taught that one could use both a central recirculation jet<sup>2</sup> along with multiple, annularly located recirculation jets, which operate continuously and provide effective wetting of dry bulk powder regardless of the quantity of mix water being introduced to the mixer. ‘330 patent, Col. 2, ln. 50-54. Second, the ‘330 patent taught the use of adjustable, annularly situated water jet outlets located about the mixer in alternating configuration with the annularly located recirculation jets. ‘330 patent, Col. 2, ln. 55-65.

Until November 2, 2007, Serva Corp. manufactured two separate lines of mixers that practiced the technology of the ‘330 patent pursuant to a licensing agreement, and Mr. Allen and Allen Associates continued to provide consulting services to Serva Corp. in connection with the sale and manufacture of those mixers. On November 2, 2007, Serva Corp., Allen Associates, and Mr. Allen executed an Intellectual Property Purchase Agreement (“the Agreement”) wherein Mr. Allen and Allen Associates agreed to assign the ‘330 patent and other intellectual property to Serva Corp. in exchange for cash payments. Following the execution of the Agreement, Serva continued to manufacture

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<sup>2</sup> The claims at issue in this case, claims 11-14 and 17-19 of the ‘330 patent, do not call for a central recirculation line. One of the mixers that Serva currently manufactures under the ‘330 patent does not include a central recirculation line.

and sell mixers covered by the ‘330 patent.<sup>3</sup> Immediately following the execution of the Agreement and prior to the Agreement’s closing date of February 1, 2008, Mr. Allen sought a patent for and began offering for sale a competing mixer that includes each and every element of at least claims 11-14 of the ‘330 patent, and the operation of which requires performance of each and every step of at least claims 17-19 of the ‘330 patent.

#### **IV. PROPOSED CLAIM CONSTRUCTIONS**

Although Serva and the Allen Parties dispute the meaning of a number of claim terms, the focus of the parties’ dispute is the construction of the terms “annularly” and “alternating.” Serva submits that these terms should be given their ordinary and plain meaning, while the Allen Parties suggest that these terms should incorporate additional limitations not present in the claims themselves.

In addition to the terms set forth above, the Parties have been unable to reach an agreement on the construction of eight additional terms, phrases, or clauses. The parties also dispute the extent to which certain claims should be construed under 35 U.S.C. § 112, paragraph 6.

**A. “Annularly” means “at or from locations or positions away from or about a central axis” (claims 11 and 17).<sup>4</sup>**

“Annularly” should be construed to mean “at or from locations or positions away from or about a central axis” as this construction is consistent with both the meaning of the claim term as understood by one skilled in the art and the specification of the ‘330 patent. Because the powder mixer described in the ‘330 patent is primarily used in the oilfield industry, it follows that one of skill in the art would use the term “annularly” in a manner consistent with the industry usage. Those experienced in the oilfield industry use

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<sup>3</sup> The Agreement set forth various provisions governing the licensing and ownership of intellectual property, including the ‘330 patent, between the execution date and the closing date.

<sup>4</sup> The Allen Parties also offer separate proposed constructions for phrases of claims 11 and 17 that include the term “annularly.” Although the only term that Serva believes requires construction in these phrases is the term “annularly,” Serva offers separate proposed constructions for these phrases at the end of this section.

the term “annulus” to refer to the space between two concentric objects, such as a wellbore and casing, or a casing and tubing. *See* Supplemental Summary of Testimony of Bill Ladd, Ex. B at 2 (“Those experienced in the oil field and in the oil field equipment industry use the term “annulus” to refer [to] the volume, area or space surrounding a central axis, such as the axis of a cylinder.”); *see also* “Annulus,” *Oilfield Glossary*, [www.glossary.oilfield.slb.com](http://www.glossary.oilfield.slb.com), (last visited August 3, 2012) (defining “annulus” to mean “the space between two concentric objects, such as between the wellbore and casing or between casing and tubing, where fluid can flow”). Consistent with this meaning, the ‘330 patent uses the term “annular” to describe the space between the outer diameter of the casing and the inner diameter of the wellbore. ‘330 patent, Col. 1, ln. 33-36. Serva’s proposed construction of “annularly” is consistent with the concept of an “annulus” as used in the ‘330 patent and as understood by those skilled in the relevant field.

The written description and the prosecution history, which inform the claim-construction analysis, *see Phillips*, 415 F.3d at 1313, support the conclusion that the term “annulus” has the meaning set forth above. The specification uses the term “annular” to describe positions that are distinguishable from “central” positions or locations. ‘330 patent, Col. 2, ln. 28-54 (contrasting prior mixer designs based on whether components were positioned annularly or centrally). The term “annular” is also used to describe two recirculation flow inlets, 34A and 34B, which are positioned on opposite sides of the mixer and feed into a recirculation manifold chamber 64 located on the *periphery* of the internal cavity of the mixer. ‘330 patent, Col. 6, ln. 29-32, 63-67; Col. 7, ln. 8-11; FIGS. 3, 4, 18 & 19. Furthermore, the *annular* recirculation outlets 80A-80D and *annular* water jet outlets 92A-92D are positioned about a central area that defines the flow path of the

bulk dry cement from the bulk cement inlet 52 to the mixing chamber 62.<sup>5</sup> Thus, throughout the ‘330 patent, “annular” and “annularly” are used consistently to describe locations or positions away from or about a central axis.

Serva’s proposed construction is also consistent with the prosecution history. In this instance, claims 11-14 were allowed by the United States Patent and Trademark Office as originally filed, such that no substantive amendments or arguments were required to distinguish the invention from the prior art. Prosecution History of the ‘330 Patent, Ex. C at FH\_032-37 (Office Action dated September 5, 2003, hereinafter “Office Action”).<sup>6</sup> Claims 17-19 (originally numbered claims 20-22) were modified only to change the preamble of the claim from “a powder mixing *system*” to a “powder mixing *method*.” *Id.* at FH\_016-17 (emphasis added). Thus, the prosecution history fails to provide any reason to change the meaning of the term “annularly” from that meaning attributed by the inventor in the specification and understood by one of skill in the art.

The Allen Parties propose that the term “annularly” be construed to mean “in a manner that is shaped like or forming a single ring.” The Allen Parties’ Proposed Claim Constructions, Ex. D. This construction relies heavily on a general dictionary definition of “annular.” *Id.* Although general dictionary definitions can be helpful to determine the commonly understood meaning of a term, the Allen Parties place too much reliance on the generic dictionary definition selected, divorcing the term from the proper context, the patent at issue. *Cf. Phillips*, 415 F.3d at 1321 (“Yet heavy reliance on the dictionary

<sup>5</sup> ‘330 patent, Col. 3, ln. 37-49 (describing the annular recirculation outlets and annular water jets as offering more effective wetting of the bulk cement); Col. 11, ln. 36-40 (claim 12) (describing the flow of bulk dry powder as being *central* with respect to the *annular* recirculation outlets); FIG. 3 (depicting unlabeled central area beginning at bulk cement inlet 52 and extending to mixing chamber 62 which surrounds the central recirculation line 54); FIG. 4 (depicting water jet outlets 92A-92D and recirculation outlets 80A-80D positioned around a concentric central area that surrounds central recirculation line 54).

<sup>6</sup> This Office Action was the first issued by the USPTO on this application. The Examiner indicated that claims 11-15 are allowed. *See* Ex. C at 37 (p. 5 of the Office Action).

divorced from the intrinsic evidence risks transforming the meaning of the claim term to the artisan into the meaning of the term in the abstract, out of its particular context, which is the specification”). As a result, the Allen Parties’ proposed construction is inconsistent with both the meaning generally understood by one of ordinary skill in the oilfield industry and the meaning of the term as informed by the context of the ‘330 patent.

Contrary to the Allen Parties’ suggestion, the ‘330 patent never refers to the water jet outlets or recirculation outlets as being arranged in a ring, and accordingly, does not provide that the water jet outlets and recirculation outlets must be in a single ring. Instead, the ‘330 patent consistently uses the term “annular” to identify a position that is outside or away from a central position.<sup>7</sup> The Allen Parties’ proposed construction does not require that the annularly positioned structures be outside or away from a central position, and is therefore inconsistent with the patent specification. Indeed, under the Allen Parties’ proposed construction, a series of structures could be “shaped like or forming a single ring” and also be positioned centrally. The Allen Parties’ heavy reliance on the dictionary definition of “annular” results in a meaning that is divorced from the context of the ‘330 patent and therefore improper.

The Allen Parties propose three separate constructions for phrases in claims 11 and 17 that use the term “annularly.”<sup>8</sup> As to the first phrase, the Allen Parties propose that “recirculating wetted powder mixture *annularly*” means “discharging wetted powder mixture *in a manner that is shaped like and forming a single ring.*” Ex. D (emphasis added). Serva disagrees with this construction, as it is based on an improper construction

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<sup>7</sup> See ‘330 patent, Col. 2, ln. 28-54 (comparing and contrasting various prior mixer designs by annular positioning of components versus central positioning); Col. 4, ln. 43-48 (distinguishing between the annular flow of recirculation mix from the recirculation outlets and the central flow of recirculation mix from the central recirculation line).

<sup>8</sup> These phrases use the term “annularly” to describe the position from which flow enters the mixer instead of the position of certain structures within the mixer. Thus, the term “annularly” should be read in these phrases as “*from* locations or positions away from or about a central axis.” However, when annularly is used to describe the position of the water jet outlets or recirculation outlets, the term should be read as “*at* locations or positions away from or about a central axis.”



of the term “annularly,” as discussed at length above. Serva proposes that “recirculating wetted powder mixture *annularly*” should be construed consistent with Serva’s construction of “annularly,” such that it means “recirculating wetted powder mixture *from locations or positions away from or about a central axis.*”

As to the second and third phrases, the Allen Parties propose that the phrase “discharge into the mixing chamber for regulating the amount of mix water introduced *annularly*” means “the water jet outlets discharge mix water *in a ring-shaped axial direction*” and that the phrase “annularly into a mixing chamber of a powder mixer” means “discharging wetted powder mixture axially and in a ring shape.” Ex. D. Serva disagrees with both the Allen Parties’ proposed meaning of “annularly,” as discussed above, and the Allen Parties’ attempt to read an “axial” limitation into the claim. The term “axial” does not appear in any of the claims at issue in the ‘330 patent, and only appears once in the entire specification. Col. 8, ln. 48. There is no support whatsoever that one of skill in the art would understand the term “discharge into the mixing chamber for regulating the amount of mix water introduced *annularly*” and “annularly into a mixing chamber of a powder mixer” to require that mix water and wetted powder discharge in an axial direction. The Allen Parties’ construction improperly imports limitations from the specification into the claims, a practice that the Federal Circuit has deemed improper. *Phillips*, 415 F.3d at 1323-1324. Serva proposes that the phrase “discharge into the mixing chamber for regulating the amount of mix water introduced *annularly*” should be construed by simply inserting Serva’s proposed meaning of “annularly” into the phrase so that it reads “discharge into the mixing chamber for regulating the amount of mix water introduced *from locations or positions away from or about a central axis.*” Similarly, Serva proposes that the phrase “*annularly* into a mixing chamber of a powder mixer” means “*from locations or positions away from or about a central axis* into a mixing chamber of a powder mixer.”



In conclusion, Serva's proposed construction of "annularly" is consistent with the meaning attributed to the term in the oilfield industry and is also consistent with the use of the term in the '330 patent. The Allen Parties' construction, by contrast, relies heavily on a general dictionary definition, and is inconsistent with the commonly understood meaning of the term and the use of the term in the '330 patent. Thus, the Court should adopt Serva's proposed construction of "annularly."

**B. "Recirculation outlets" are "outlets through which recirculated wetted powder mixture passes" (claims 11, 12, 14, 17 and 19).**

Some claims of the '330 patent call for the mixer to include "recirculation outlets" that discharge or introduce recirculated wetted powder mixture into the mixer. '330 patent, Col. 11, ln. 27-28 (claim 11) ("for continuously recirculating wetted powder mixture"); Col. 12, ln. 30-33 (claim 17) ("introducing recirculating wetted powder via recirculation outlets"). Although the specification of the '330 patent describes the recirculation outlets as comprising some preferred structural characteristics, the plain language of claims 11, 12, and 17 simply does not call for any of these structural limitations.<sup>9</sup> One of ordinary skill in the art would not find the term "recirculation outlets" to lack clarity or to be ambiguous in the absence of such structural limitations. *See Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 990 (Fed. Cir. 1999) (stating that limitations from the specification should only be read into a claim where the ordinary and plain meaning "so deprive[s] the claim of clarity that there is no means by which the scope of the claim may be ascertained from the language used"). Accordingly, the importation of additional structural limitations into the meaning of "recirculation outlets" is not justified by the term itself or the plain language of the claims.

The prosecution history does not support adding any additional structural limitations to the term "recirculation outlets." In discussing this term, the Office Action

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<sup>9</sup> Claims 14 and 19 call for the recirculation outlets to converge inwardly, thereby adding an additional express limitation.

provides that “the claims are devoid of any further structure connected to the central lines or [recirculation] outlets...the only structure claimed is a central line and outlets.” *See* Ex. C at FH\_036. Although this language was not specifically targeted towards the use of the term in claims 11-14, it demonstrates that the United States Patent and Trademark Office understood the term “recirculation outlet” to mean simply an outlet, with no further structural limitations included. Moreover, claims 11-14 were allowed by the Patent Office as originally filed, such that an explanation of the structural limitations of the recirculation outlets was not required to distinguish the claims from the prior art. *See* Ex. C at FH\_037 (Office Action indicating claims 11-15 as allowable). Thus, neither the plain language of the claims nor the prosecution history provides justification for reading in additional limitations to the meaning of “recirculation outlets.”

Contrary to this evidence, the Allen Parties include in their proposed construction the additional limitations of the outlets being “parallel” and “equally spaced.” Ex. D. In doing so, the Allen Parties attempt to import limitations from a preferred embodiment described in the specification, a claim construction practice that the Federal Circuit has deemed improper. *Phillips*, 415 F.3d at 1323-1324. (“In particular, we have expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment.”). The plain language of the claims does not require the recirculation outlets to be parallel or equally spaced. Furthermore, these limitations are not needed to clarify the meaning of the term, and the prosecution history indicates that the Patent Office did not understand the term to include these limitations. *See* Ex. C at FH\_037. Finally, one skilled in the art would not understand the term “recirculation outlets” to inherently require that they be “equally spaced” and “parallel.” Since these limitations are not in the claim and are not required by the term itself, adding these limitations to the meaning of “recirculation outlets” is improper.

The Allen Parties also call for the recirculation outlets to form a ring shape. Since the idea of forming a ring shape comes from the Allen Parties' proposed construction of "annularly," the Allen Parties are repeating this limitation in their proposed construction of "recirculation outlets." Ex. D. However, the plain language of the claims at issue already calls for the recirculation outlets to be provided "annularly," such that adding this limitation into the proposed construction of "recirculation outlets" is redundant and potentially confusing.

Unlike the Allen Parties' construction, Serva's proposed construction is consistent with the plain language of the claim and the specification, and does not impermissibly import limitations into the claim. Accordingly, the Court should adopt Serva's proposed construction of "recirculation outlets."

**C. "Adjustable water jet outlets" are "adjustable openings through which the mix water or fluid passes." (claims 11, 13 17 and 19).**

The rationale supporting Serva's proposed construction of the term "recirculation outlets" is equally applicable to Serva's proposed construction of the term "adjustable water jet outlets." The meaning of the term "adjustable water jet outlets" is apparent from the plain language of the claims, which provides that the adjustable water jet outlets regulate the amount of mix water that is ultimately introduced annularly into the mixing chamber. '330 patent, Col. 4, ln. 30-40; Col. 11, ln. 29-34 (claim 11) ("water jet outlets . . . for regulating the amount of mix water introduced annularly"); Col. 12, ln. 34-38 (claim 17) (introducing a regulated amount of mix water via adjustable water jet outlets"). One of ordinary skill in the art would not find the term "adjustable water jet outlets" to lack clarity or be ambiguous, but would understand the term to mean "adjustable openings through which the mix water or fluid passes," as proposed by Serva.

The claim term, read in light of the specification, is not ambiguous or unclear such that further limitations are necessary in order to supplement or explain the term. Neither the specification nor the prosecution history requires that an "adjustable water jet outlet"

be anything other than an “adjustable opening through which the mix water or fluid passes.” For example, the specification describes one embodiment in which the adjustable water jet outlets are corresponding openings that coordinate to form orifices of adjustable size, which is consistent with the understanding that the water jet outlets need only be adjustable openings. ‘330 patent, Col. 4, ln. 30-38; Col. 7, ln. 25-39; Col. 11, ln. 41-52 (claim 13). Thus, Serva’s proposed construction is fully consistent with the specification of the ‘330 patent.<sup>10</sup>

As they did with respect to the term “recirculation outlets,” the Allen Parties again attempt to improperly import limitations into the claim term “adjustable water jet outlets,” asserting that the adjustable outlets must be parallel, equally spaced, and forming a ring shape. As discussed previously, nothing in the claim language, the specification or the prosecution history requires that the adjustable water jet outlets be parallel or equally spaced. Furthermore, based on the Allen Parties’ proposed construction of “annularly,” the limitation requiring that the outlets form a ring shape is unnecessary in light of claim 11’s express requirement that the adjustable water jet outlets be “provided annularly.” Finally, the Allen Parties attempt to read out the limitation of the outlets being adjustable, as their proposed claim construction does not account for this term.

The term “adjustable water jet outlet” is clear and unambiguous. The construction proposed by Serva is consistent with this clear meaning and the specification and, unlike the Allen Parties’ construction, does not impose extraneous limitations not required by the claims themselves, the specification, or the prosecution history. Accordingly, this court should adopt Serva’s construction of the term “adjustable water jet outlets.”

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<sup>10</sup> Column 7 describes a preferred embodiment, and the plain language of claims 11, 12, and 17 do not call for any of the structural limitations set forth in that Column. However, the description of the preferred embodiment is relevant in that it is consistent with the ordinary and plain meaning of “adjustable water jet outlets” proposed by Serva—“adjustable openings through which the mix water or fluid passes.”

**D. “In alternating arrangement with said recirculation outlets” means “the adjustable water jet outlets alternate with the recirculation outlets about the central axis” (claims 11 and 17).**

The ‘330 patent claims adjustable water jet outlets positioned “in alternating arrangement with [ ] recirculation outlets.” The phrase “alternating arrangement” is not a technical phrase or term of art, but a commonly understood term. As such, the interpretation of this claim language requires little more than the application of the widely accepted meaning of the words utilized in the claim. *See Phillips*, 415 F.3d at 1314. The claim construction offered by Serva, which construes the disputed claim to require that “the adjustable water jet outlets alternate with the recirculation outlets about the central axis,” is consistent with the commonly understood words employed in the ‘330 patent.

The specification of the ‘330 patent confirms that the phrase “alternating arrangement” was intended to have its ordinary, commonly understood meaning as proposed by Serva. “[I]t is fundamental that claims are to be construed in the light of the specifications and both are to be read with a view to ascertaining the invention.” *United States v. Adams*, 383 U.S. 39, 49 (1966); *see Phillips*, 415 F.3d at 1313. The specification demonstrates that the invention at issue in this case is a mixer in which the water jet outlets (identified as 92A-92D) and recirculation outlets (identified as 80A-80D) alternate around a central axis extending through the mixer’s interior. ‘330 patent, Col. 7, ln. 42-55; FIG. 4. This arrangement is illustrated in Figure 4 of the ‘330 patent, reproduced below. ‘330 patent, FIG. 4 (shading added). This pictorial representation of the “alternating arrangement” described in the specification confirms that the recirculation and water jet outlets alternate about the central axis of the mixer.

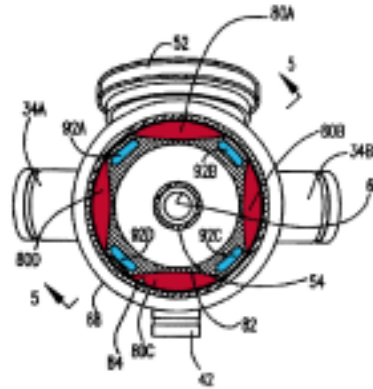


FIG 4

The Allen Parties suggest that the phrase “alternating arrangement” requires not only that the water jet outlets alternate with the recirculation outlets, but also that the water jet outlets be “equally spaced between a pair of recirculation outlets, and vice versa on the same annulus.” By putting forth this construction, the Allen Parties impermissibly attempt to import limitations into the claim language. *See Phillips*, 415 F.3d at 1323. The ‘330 patent does not require that the water jet outlets be “evenly spaced between” the recirculation outlets. Although a preferred embodiment is described as having water jet outlets that, in addition to being “alternating,” are “evenly spaced relative to” the recirculation outlets, ‘330 patent, Col. 7, ln. 44-45, there is no requirement in the claims and no indication in the specification or elsewhere that the invention requires the recirculation and water jet outlets to be evenly spaced between each other. *Cf. Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1370 (Fed. Cir. 2003) (“[T]his court looks to whether the specification refers to a limitation only as a part of less than all possible embodiments or whether the specification read as a whole suggests that the very character of the invention requires the limitation be a part of every embodiment.”).<sup>11</sup> The

<sup>11</sup> *Cf. also* U.S. Patent No. 5,382,411, Col. 10 ln. 31-46 (Thomas E. Allen, Inventor) (“It is contemplated that [a particular] alignment will reduce pressure losses . . . and thereby provide a higher water velocity and mixing energy . . . and reduce water erosion of the component parts.”).

second limitation proposed by the Allen Parties, which requires the water jet and recirculation outlets to lie on the same annulus,<sup>12</sup> cannot be found anywhere in the claims themselves, the specification, or the prosecution history. The additional limitations proposed by the Allen Parties are not present in the claim language, do not describe essential features of the invention, and are merely arbitrary limitations that should not be read into the language of the claim. *Phillips*, 415 F.3d at 1323-34; *Comark Commc'ns v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998).

In sum, the Court should construe the claim phrase “alternating arrangement” to require, as Serva suggests, adjustable water jet outlets that alternate with the recirculation outlets around a central axis. Serva’s proposed construction gives the contested claim term “its full breadth of ordinary meaning,” *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336 (Fed. Cir. 2001), is consistent with the full understanding of what the inventor invented, *Renishaw*, 158 F.3d at 1250, and is the appropriate construction to be applied in this case. *Id.*

**E. “Centrally within the annular recirculation outlets” means “centrally with respect to the recirculation outlets positioned about the central axis”<sup>13</sup> (claims 12 and 17).**

Claims 12 and 17 call for the bulk dry powder to be introduced into the mixing chamber “centrally within the annular recirculation outlets.” ‘330 patent, Col. 11, ln. 35-40 (claim 12); Col. 12, ln. 38-43 (claim 17). Because the term “annular” means at positions or locations away from or about a central axis,” it follows that the term “centrally” refers to the area about which the recirculation outlets are positioned. Thus, “centrally within the annular recirculation outlets” should be construed to mean “centrally with respect to the recirculation outlets positioned about the central axis.”

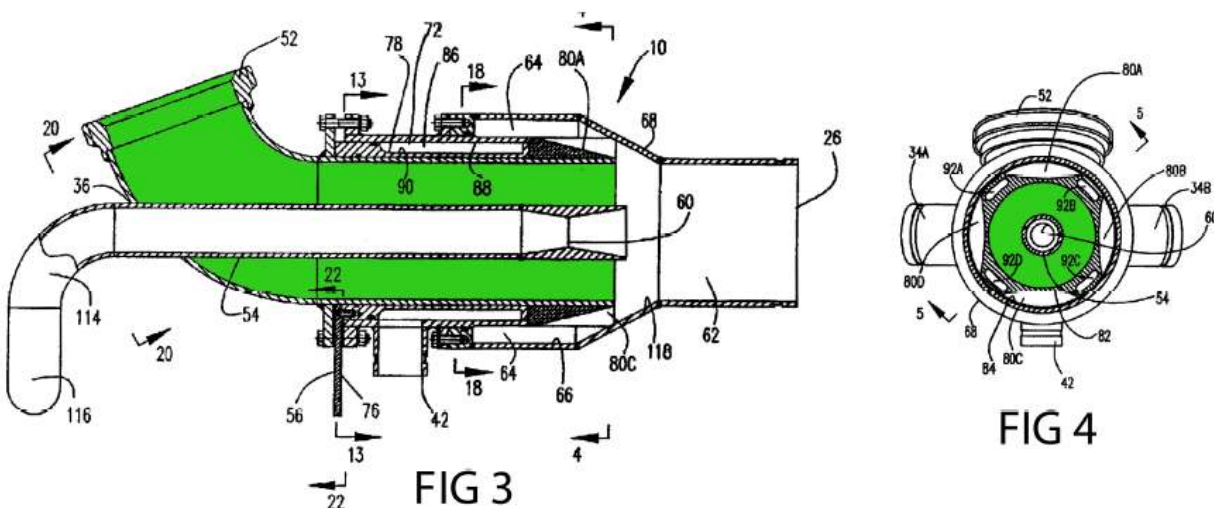
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<sup>12</sup> This construction is itself ambiguous. It is not clear what is meant by the requirement that the water jet and recirculation outlets lie on the same annulus.

<sup>13</sup> The Allen Parties have not previously disclosed to Serva a proposed construction of this term.



The specification supports this construction. Specifically, FIGS. 3 and 4 of the ‘330 patent demonstrate that bulk powder is introduced into the mixing chamber in the central area about which the annular recirculation outlets, 80A-80D, are positioned. *See* ‘330 patent, FIGS. 3 & 4 (bulk powder is introduced in shaded area).



Thus, it is clear that “centrally within the annular recirculation outlets” means “centrally with respect to the recirculation outlets positioned about the central axis” as proposed by Serva.

**F. “Rotatable water metering valve element” means “a rotatable component for adjusting the flow of water passing through the water jet outlets” (claim 13 and 18).**

The meaning of “rotatable water metering valve element” is clearly set forth in the plain language of claims 13 and 18, such that the claims themselves expressly provide all the limitations necessary to understand the meaning of this term. Specifically, claim 13 calls for the rotatable water metering valve element (“element”) to include jet openings that extend through the element. ‘330 patent, Col. 11, ln. 40-52 (claim 13); Col. 12, ln. 44-53 (claim 18). The claims provide that these jet openings cooperate with openings in a fixed part to form the adjustable water jet outlets. *Id.* Moreover, claim 18 includes similar limitations and further clarifies that the water jet outlets are adjusted by rotating the element to adjust the opening size formed by the cooperation of the element jet



openings and fixed part jet openings. ‘330 patent, Col. 12, ln. 44-53 (claim 18). Thus, the rotatable water metering valve element is “a rotatable component for adjusting the flow of water passing through the water jet outlets.”

In their proposed construction, the Allen Parties construe “rotatable water metering valve element” as a means-plus-function limitation under 35 U.S.C. § 112, paragraph 6. Construing this term as a means-plus-function limitation is not proper. First, the claim limitation does not use the term “means” thereby creating a presumption that the limitation should not be construed as a means-plus-function limitation. *Personalized Media Commc’ns, LLC*, 161 F.3d at 703-04.

Second, claim 13 does not recite a specific function that is performed by the valve element. *Rodime PLC*, 174 F.3d at 1302 (recognizing that a means-plus-function claim must recite a specific function to be performed). Although some functional language is used to describe the valve element itself, claim 13 fails to recite the specific function identified by the Allen Parties in their proposed constructions. *See* Ex D. Thus, the Allen Parties have imported a function from the specification into the claim based on the recitation of a structure, a practice that is improper in construing a means-plus-function claim. *Id.* at 1303 (“the district court erred by importing the functions of a working device into these specific claims”).

Third, claim 13 recites sufficient structure for the rotatable water metering valve element, placing the claim outside of section 112, paragraph 6. *Personalized Media Communc’ns, LLC*, 161 F.3d at 704 (recognizing that a recitation of structure describing the “means” places the claim out of 112, paragraph 6). Specifically, claim 13 calls for the rotatable water metering valve element to include jet openings which cooperate with openings in a fixed part to form the adjustable water jet outlets. Thus, there is no evidence to rebut the presumption that the term “rotatable water metering valve element” in claim 13 is not a means-plus-function claim governed by section 112, paragraph 6.

The analysis is similar with respect to claim 18. Although claim 18 does specifically recite the function of “regulating the amount of mix water introduced into said mixing chamber,” section 112, paragraph 6 does not apply due to the recitation of structure to perform this function. *Id.* Claim 18 describes the rotatable water metering valve element as having jet openings which are involved in the function of regulating the amount of mix water. Thus, there is no evidence to rebut the presumption that the term “rotatable water metering valve element” in claim 18 should not be construed as a means-plus-function claim.

**G. “Rotatable by means of a mix water adjustment input means” is a means-plus-function claim where the stated function is to rotate the water metering valve element and the corresponding structure is a lever or a handle and the structural equivalents thereof (claims 13 and 18).**

The parties appear to agree that this term should be construed as a means-plus-function limitation under 35 USC § 112, paragraph 6. They also appear to agree that the recited function performed by the mix water adjustment input means is to rotate the water metering valve element. However, the parties differ on the structure recited to perform the means. The written description identifies the structure as a “lever or handle,” ‘330 patent, Col. 7, ln. 56-63, but the Allen Parties list only a handle as a means for performing this function. Ex. D. Because the patent specification identifies both a lever and a handle as the means to perform the desired function, and because the corresponding structure should include all such structures disclosed in the specification, Serva’s proposed construction is proper. *See Callicrate v. Wadsworth Mfg. Co.*, 427 F.3d 1361, 1369 (Fed. Cir. 2005) (noting that the corresponding structure that performs the identified function includes all such structures disclosed in the specification, not merely the preferred embodiment).

The Allen Parties add that the structure is a handle “attached to the water metering valve element.” The requirement that the structure be “attached to the water metering

valve element” is unnecessary and redundant, as the claim expressly calls for the mix water adjustment input means to be attached to the water metering valve element.

**H. “Fixed part” means “a non-movable part” (claims 13 and 18).**

The term “fixed part” does not require construction, as its meaning is apparent based on the plain language of the claims. However, to the extent the Court requires a construction of this term, Serva offers that the term possesses its ordinary and plain meaning, which is “a non-movable part.” The plain language of claim 13 provides for a *rotatable* water metering valve element and a *fixed* part wherein the rotatable element contains a set of jet openings that cooperate with a set of jet openings on the fixed part to form the adjustable water jet outlets. Claim 18 further provides that the rotatable water metering valve element is rotated relative to the fixed part in order to control the opening size of the adjustable water jet outlets, suggesting that the fixed part, unlike the rotatable part, is not movable. The specification of the ‘330 patent does not provide a different understanding of the term “fixed part,” but describes the fixed part as providing a series of *stationary* jet openings that cooperate with a series of movable jet openings on the rotatable water metering valve element. *See* ‘330 patent, Col. 4, ln. 15-17 (“[t]he water metering means consists of a fixed part that cooperates with a movable part”); Col. 4, ln. 29-39; Col. 7, ln. 2-7, 19-39; Col. 9, ln. 1-12. Thus, if the Court requires construction, “fixed part” should be construed to mean “a non-movable part.”

As they did with “rotatable water metering valve element,” the Allen Parties misinterpret “fixed part” as a means-plus-function claim under section 112, paragraph 6. It is presumed that “fixed part” is not to be construed under section 112, paragraph 6, as the limitation does not include the term “means.” *Personalized Media Commc’n, LLC*, 161 F.3d at 703-04. In this instance, there is no evidence to rebut this presumption. Claims 13 and 18 do not identify a specific function performed by the “fixed part.” Instead, the claims call for the fixed part to provide jet openings which cooperate with

another set of openings in the rotatable water metering valve element to form the adjustable water jet outlets. ‘330 patent, Col. 11, ln. 40-52 (claim 13); Col. 12, ln. 43-53 (claim 18). Because the claims call for the fixed part to include jet openings, the claim recites at least a portion of its structure. *Id.* As a result, the term “fixed part” should not be construed under section 112, paragraph 6.

**I. “Converges inwardly within the mixing chamber” means “moves towards the mixing chamber at an angle” (claim 19).**

Claim 19 calls for the flow of wetted powder mixture from the annular recirculation outlets to be introduced into the mixing chamber *so that it converges inwardly within the mixing chamber* to thoroughly wet and mix with the bulk powder. ‘330 patent, Col. 12, ln. 54-60 (claim 19). Because the recirculation outlets are provided annularly, and are therefore away from or about a central axis, it follows that the term “inwardly” means toward the central axis, where the bulk powder is introduced. In order for the flow to “converge inwardly” towards the mixing chamber from an area outside the mixing chamber, it must move at an angle. Thus, the plain language of the claim supports Serva’s proposed construction. The specification is also consistent with this construction, as it describes an embodiment wherein the flow coming from the recirculation outlets is inwardly angled. *See* ‘330 patent, Col. 8, ln. 44-47. Based on this evidence, Serva proposes that the term “converges inwardly within the mixing chamber” in claim 19 means “moves towards the mixing chamber at an angle.”<sup>14</sup>

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<sup>14</sup> Serva included this term in its original proposed constructions. The Allen Parties have not provided an alternative proposed construction and indicated in an email from Margaret Millikin dated August 6, 2012 that they did not intend to discuss it in their opening brief.

**J. “The annular recirculation outlets converge inwardly within the mixing chamber” means “at least one of the surfaces that define the annular recirculation outlets is angled towards the mixing chamber” (claim 14).**

Claim 14 calls for the annular recirculation outlets to converge inwardly within the mixing chamber. This term differs slightly from the similar term in claim 19 above as it calls for the recirculation outlets themselves to converge inwardly, rather than the flow through those outlets. Thus, the outlets must provide some angled part or portion that causes the inward convergence. For these reasons, and for the reasons provided above with respect to the similar term of claim 19, Serva proposes that “the annular recirculation outlets converge inwardly within the mixing chamber” means “at least one of the surfaces that define the annular recirculation outlets is angled towards the mixing chamber.”<sup>15</sup>

**V. CONCLUSION**

Serva’s proposed constructions represent the meanings attributed by one of skill in the oilfield industry and are consistent with the intrinsic evidence. In contrast, the Allen Parties offer constructions that are inconsistent with the understood meaning of terms in the oilfield industry, include limitations not called for by the claims or required to understand a term’s meaning, and are improperly construed under 35 U.S.C. § 112, paragraph 6. For these reasons, and the reasons set forth above, the Court should adopt Serva’s proposed constructions of the disputed terms of the ‘330 patent.

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<sup>15</sup> See footnote 15. The Allen Parties have not provided a proposed construction for this term.

Respectfully Submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that on August 6, 2012, I electronically transmitted the foregoing document to the following counsel of record:

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s/ John A. Kenney